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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/580,902

05/26/2006

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12400-079

1277

757 7590 01/28/2009
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EXAMINER

HAUGLAND, SCOTT J

ART UNIT

PAPER NUMBER

3654

MAIL DATE

DELIVERY MODE

01/28/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/580,902	Applicant(s) YUKINORI ET AL.	
	Examiner Scott Haugland	Art Unit 3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

The drawings are objected to because they contain extraneous matter and some figures (e.g., Fig. 11) are not properly oriented. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the spiral spring

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recited in claim 2, line 3 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 6-13 is incomplete. It appears that "such that" on line 6 should be --that performs the steps of-- or similar language.

The language of claim 1, lines 23-28 is inaccurate or unclear since the second torque generating system (electric motor) is disclosed as being off (and thus produce no torque) at times. The torque of the spring would be higher than the torque produced by the motor at least at such times. It is not clear how the spindle speed could be maintained or maintained at a lower speed than a rotary speed of the spindle driven by the second torque generating system since the speed of a seat belt spindle would be highly variable depending the particular conditions of use. It is not clear what torques are referred to on lines 23 and 24 since the ordinary torque generating components (spring and motor) disclosed would produce varying torques during operation.

Concerning claim 4, line 2, it is not clear in advance of what the torque setting is made.

Claim 6 is inaccurate or unclear. The elastic force of the disclosed elastic member would vary depending on the amount that it is compressed and would be zero when uncompressed.

In claim 12, it appears that "on a side" on lines 5 and 8 should be --in the direction--.

In claim 12, lines 9-10, it appears that "is wound" should be --is being wound--.

The language of claim 14, lines 5-6 is unclear since both recited levels of torque are for rotating the spindle. Additionally, "the torque" appears to refer to a level of torque (note parent claim 1, lines 23-24). It is not clearly set forth in the claims how the various recited torque levels are related.

In claim 17, lines 5-7, the language "a level ... period of time" appears to be incomplete.

Claim 19 appears to be self-contradictory. The two recited levels of torque are the same.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 15, 16, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al (U.S. Pat. Appl. Pub. No. 2002/0189880) in view of Yano et al (U.S. Pat. No. 6,499,554).

Tanaka et al discloses a retractor for a seat belt system for a vehicle comprising: a spindle 4 on which a webbing is wound, a frame 2 for pivotally holding the spindle, and a first torque generating system 14 including spiral spring 54 which generates torque to rotate the spindle in a winding direction in which the webbing is wound and

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connected to the spindle at all times so as to transmit the generated torque to the spindle, a second torque generating system (motor 10) which generates torque to rotate the spindle in the winding direction, and a torque transmitting mechanism system 5 which transmits the torque generated by the second torque generating system to the spindle. The torque transmitting mechanism system 5 does not transmit torque generated second torque generating system to the spindle when the second torque generating system generates torque for rotating the spindle in the seatbelt unwinding direction (abstract, par. 68). The second torque generating system generates a torque in the unwinding direction after winding the belt to put the torque transmitting mechanism system into a state in which the second torque generating system does not transmit torque to the spindle to prevent interference with the normal operation of the spindle (Fig. 6). The first torque generating system (spring unit 14) produces a torque that may be so low as to be incapable of satisfactorily winding the seatbelt onto spindle 4 by itself (par. 40). The second torque generating system (motor 10) has a significantly higher torque generating capability to ensure that the seat belt is wound when necessary.

Assuming, arguendo that Tanaka et al does not disclose that the retractor includes the spindle locking system in the related patent to Yano et al, Yano et al teaches providing a seatbelt retractor of the type in Tanaka et al with a spindle locking system means (6,8) for preventing the webbing from drawing that stops rotation of the spindle rotating in a webbing drawing out direction when a rotational acceleration of the spindle is not less than a first predetermined value when the webbing is accelerated in

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the drawing out direction and stops rotation of the spindle rotating in the drawing out direction when a deceleration of the vehicle is not less than a second predetermined value.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the retractor of Tanaka et al with a spindle locking system means for preventing the webbing from drawing that stops rotation of the spindle rotating in a webbing drawing out direction when a rotational acceleration of the spindle is not less than a first predetermined value when the webbing is accelerated in the drawing out direction and stops rotation of the spindle rotating in the drawing out direction when a deceleration of the vehicle is not less than a second predetermined value as taught by Yano et al to restrain a wearer of the seat belt during a vehicle emergency.

With regard to claim 20, the rotary speed of the spindle would inherently increase with time as torque is applied by the drive motor 10.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al in view of Yano et al as applied to claim 1 above, and further in view of Peter (U.S. Pat. No. 2003/0201359).

Tanaka et al does not disclose a torque transmission cushioning system for cushioning a torque transmission by an elastic member arranged between the second torque generating system and the spindle.

Peter teaches a torque transmission cushioning system for cushioning a torque transmission by an elastic member 28 arranged between a torque generating system 36 and a belt spindle 12.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the retractor of Tanaka et al with a torque transmission cushioning system for cushioning a torque transmission by an elastic member arranged between the second torque generating system and the belt spindle as taught by Peter to simplify the spindle acceleration responsive locking mechanism.

With regard to claim 6, it would have been obvious to make the elastic force of the elastic member in the power transmission cushioning system larger than the force generated at the same point by the first torque generating system to prevent false triggering of the associated locking mechanism.

Claims 7-13, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al in view of Yano et al as applied to claim 1 above, and further in view of Fujii et al (U.S. Pat. No. 6,427,935).

Tanaka et al does not disclose a webbing action detecting system for detecting whether the webbing is drawn out, the webbing is wound, or the webbing is in a stopping state or a control system for controlling the torque of the second torque generating system according to an action of the webbing detected by the webbing action detecting system.

Fujii et al teaches providing a seat belt retractor with a webbing action detecting system (40, 50) for detecting whether the webbing is drawn out, the webbing is wound, or the webbing is in a stopping state and a control system (Fig. 16) for controlling the torque of the second torque generating system according to an action of the webbing detected by the webbing action detecting system.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the retractor of Tanaka et al with a webbing action detecting system for detecting whether the webbing is drawn out, the webbing is wound, or the webbing is in a stopping state and a control system for controlling the torque of the second torque generating system according to an action of the webbing detected by the webbing action detecting system as taught by Fujii et al to provide improved control of the retractor that supports different operating modes.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al in view of Yano et al and Fujii et al as applied to claim 13 above, and further in view of Midorikawa et al (U.S. Pat. No. 6,485,057).

Tanaka et al does not disclose making the second torque generating system gradually reduce the torque with lapse of time during winding.

Midorikawa et al teaches gradually reducing the torque of a seat belt winding mechanism during winding (col. 51, lines 16-29).

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to retract seatbelt with gradually decreasing torque as taught by Midorikawa et al to prevent discomfort to the wearer during belt tightening.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al in view of Yano et al as applied to claim 15 above, and further in view of Midorikawa et al (U.S. Pat. No. 6,485,057).

Tanaka et al does not disclose making the second torque generating system gradually reduce the torque with lapse of time during winding.

Midorikawa et al teaches gradually reducing the torque of a seat belt winding mechanism during winding (col. 51, lines 16-29).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to retract seatbelt with gradually decreasing torque as taught by Midorikawa et al to prevent discomfort to the wearer during belt tightening.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Midorikawa et al (U.S. Pat. No. 6,561,299) and Yano et al (U.S. Pat. Appl. Pub. No. 2002/0024211) are cited to further show motor driven seat belt retractors.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Haugland whose telephone number is (571)272-6945. The examiner can normally be reached on Mon. - Fri., 10:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo can be reached on (571) 272-6856. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SJH/

1/22/09

/Peter M. Cuomo/

Supervisory Patent Examiner, Art Unit 3654